

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

INTERNATIONAL BUSINESS
MACHINES CORPORATION,

Plaintiff,

v.

THE PRICELINE GROUP INC.,
KAYAK SOFTWARE CORPORATION,
OPENTABLE, INC., AND
PRICELINE.COM LLC

Defendants.

C.A. No. 15-137-LPS

JURY TRIAL DEMANDED

PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF

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NATURE AND STAGE OF THE PROCEEDINGS

On February 9, 2015, Plaintiff International Business Machines (“IBM”) filed its Complaint for Patent Infringement (“Complaint”) against Defendants The Priceline Group Inc., Kayak Software Corporation, OpenTable, Inc., and priceline.com LLC (collectively, “Defendants”) for infringement of United States Patent Nos. 5,796,967 (“the ’967 patent”), 7,072,849 (“the ’849 patent”), 5,961,601 (“the ’601 patent”), and 7,631,346 (“the ’346 patent”) (collectively, the “Patents-In-Suit”). D.I. 1. On July 13, 2016, the parties filed a Joint Claim Construction Chart for the Patents-in-Suit. D.I. 134. IBM submits this initial brief as part of the parties’ simultaneous briefing, pursuant to the Court’s Scheduling Order. D.I. 65.

INTRODUCTION

IBM is a pioneer in online computer systems, and each of the Patents-In-Suit was born out of IBM’s extensive investment in research and development. The ’967 and ’849 patents improve interactive applications by structuring applications as partitions comprised of modular objects that can be selectively stored and retrieved from the network as needed. The ’601 patent improves so-called stateless communication protocols by embedding state information into continuations, such as webpage hyperlinks. The ’346 patent improves online user authentication via single-sign-on operations by allowing users to sign-on and access protected resources, even when they do not have preexisting user accounts.¹ IBM’s proposed constructions for each of the Patents-In-Suit come directly from the specification and the context of the claims themselves. In contrast, Defendants’ base their constructions largely on preferred embodiments and extrinsic evidence. The Court should therefore adopt IBM’s proposed constructions.

¹ The claimed inventions are described in detail in IBM’s technology tutorial, submitted concurrently under separate cover.

ARGUMENT

I. Disputed Terms For U.S. Patent Nos. 5,796,967 And 7,072,849

A. Disputed Terms Common To The '967 And '849 Patents

1. “object(s)”

IBM's Proposal	Defendants' Proposal
separate data structures having a uniform, self-defining format that are known to the reception systems, including data types, such as interpretable programs and presentation data for display at the monitor screen of the user's personal computer	Plain and Ordinary Meaning

IBM's construction originates in the “General System Description” section of the '849 and '967 patent specifications, which states “[o]bjects have a uniform, self-defining format known to RS 400, and include data types, such as interpretable programs and presentation data for display at monitor screen 414 of the user's personal computer 405.” Furthermore, the specification makes clear that objects are “data structures.” D.I. 134, Ex. A-1, 5:49-55; D.I. 134, Ex. B-1, 5:51-60; *see also* D.I. 134, Ex. A-1, 8:3-5 (“Objects are self-describing structures organized in accordance with a specific data object architecture”) The specific characteristics of objects, as taught by the specification, are central to the claimed invention. For example, the fact that objects have a “uniform, self-defining format *known to the user reception systems*” means that the host system can offload some of the processing of interactive applications to the user reception systems. D.I. 134, Ex. A-1, 10:60-11:4; D.I. 134, Ex. B-1, 10:64-11:8 (emphasis added). Those characteristics also facilitate selective storage and on-demand retrieval. D.I. 134, Ex. A-1, 6:16-22; D.I. 134, Ex. B-1, 6:18-24.

IBM's construction is further supported by the prosecution history. Throughout the prosecution of the '967 patent, IBM distinguished the current inventions over the prior art on the basis of “objects.” D.I. 134, Ex. A-3, at 10, 11, 12, 21; D.I. 134, Ex. A-4, at 4; D.I. 134, Ex. A-5,

at 2, 5. Additionally, the examiner of the '967 patent clearly understood objects as having a specific construction which was described in the specification. The application for the '967 patent originally used the term “element(s)” in place of “object(s).” However, during an interview, the examiner agreed to withdraw the rejections of claims 1 and 2 if IBM would amend its claims to change “element(s)” to “object(s).” The examiner further stated that “the ‘objects’ are described extensively in the specification” D.I. 134, Ex. A-7, at 2. Thus, in finding the invention patentable over the prior art, the examiner relied on the particular definition of the term “object(s)” described in the specification.

None of Defendants’ extrinsic evidence explains the plain and ordinary meaning of the term “object.” The intrinsic evidence that Defendants cite further supports IBM’s construction by describing specific characteristics of objects. *See, e.g.*, D.I. 134, Ex. A-1, 5:49-55, 8:3-5, 11:11-16. Furthermore, Defendants’ proposal that the Court not construe the term at all—so that Defendants can later argue that “objects” means something different than as described in the intrinsic record (as set forth by IBM)—is contrary to law. *See, e.g., O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“When the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.”); *see also* J. Stark, Revised Procedures for Managing Patent Cases, at p. 8 (June 18, 2014). In view of the definition in the specification, the importance of objects to accomplish novel features of the invention, and the prosecution history, the Court should adopt IBM’s construction.

2. “application(s)”

IBM’s Proposal	Defendants’ Proposal
information events composed of a sequence of one or more pages opened at a screen	Information events composed of a sequence of one or more pages opened at a screen to provide requested information and/or transaction operations. However, neither this construction nor the plain language provides sufficient guidance to a

	person of ordinary skill to determine what constitutes two different applications, rendering the claim indefinite.
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IBM’s proposed construction of “application(s)” should be adopted as comes directly from the express definition provided in the specifications of the ’967 and ’849 patents. D.I. 134, Ex. A-1, 9:32-34; Ex B-1, 9:35-37 (“Applications, i.e., information events, are composed of a sequence of one or more pages opened at screen 414 of monitor 412.”) *See, e.g., Abbott Labs. v. Novopharm Ltd.*, 323 F.3d 1324, 1327, 1330 (Fed. Cir. 2003) (finding that the specification language “... the co-micronization of fenofibrate and a solid surfactant (i.e., the micronization of an intimate mixture of fenofibrate and a solid surface) ...” was an express definition of the term “co-micronization of fenofibrate and a solid surfactant”). The definition in the patent governs. *See, e.g., Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (“[T]he specification is ‘the single best guide to the meaning of a disputed term,’ and . . . the specification ‘acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.’”) (citations omitted); *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998) (“When the specification explains and defines a term used in the claims, without ambiguity or incompleteness, there is no need to search further for the meaning of the term.”).

Defendants’ construction attempts to further limit the term “application(s)” by importing a single embodiment from the specification. Defendants’ additional “to provide requested information and/or transactional operations” comes from a section of the specification which discusses an embodiment “in preferred form,” D.I. 134, Ex. A-1, 9:10-11; D.I. 134, Ex. B, 9:12-13, wherein the user may logon and access the network with a personal computer and reception system application software. D.I. 134, Ex. A-1, 9:26-29; D.I. 134, Ex. B-1, 9:28-31. The specification teaches that applications can not only “perform transactions with the interactive

network 10” but also “perform traditional data processing operations, including selecting another partitioned application to be processed upon a user generated completion event” Ex. A-1, 8:61-64. Defendants’ adoption of “information and transaction operations” while ignoring other operations improperly imports a limitation from specification. *Phillips*, 415 F.3d at 1323. This is especially true where, as here, the patent specification expressly defines the term. *Id.* at 1321.

Defendants also contend that the term “application” renders the claim indefinite because neither proposed construction describes how to “determine what constitutes two different applications.” D.I. 134, Ex. A, at 3. However, a patent is only invalid for indefiniteness “if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). Defendants admit that applications are “information events” and agree on the source of the definition from the specification. Thus, either construction, at a minimum, conveys the delineation between two different applications and thus would inform persons skilled in the art about the scope of the claimed invention. In addition, the specification describes a preferred embodiment where specifically constructed applications are “services” which include “. . . display of information such as movie reviews, the latest news, airlines reservations,” Ex. A-1, 7:29-31; 7:36-40, further demonstrating the distinction between two different applications. Furthermore, dictionaries from the time of the ’967 and ’849 patents’ filing demonstrate that one of skill in the art would be able to distinguish applications on the basis of subject matter. *See, e.g.*, D.I. 134, Ex. A-8, at 4 (“the system or problem to which a computer is applied; for example, a payroll application, an airline application, or a network application”); A-9, at 4 (accord); A-10, at 4 (accord); A-11, at 4 (accord). There is thus nothing indefinite about the term “applications” as used in the patents.

3. “computer network” / “the network”

IBM’s Proposal	Defendants’ Proposal
[no construction necessary or, alternatively:] two or more interconnected computers	An information network consisting of a single central, host computer providing the objects to generate the screens of display at the reception systems

No construction is necessary for “computer network” or “the network”; those terms can be readily understood by a jury. Furthermore, the use of the terms in the claims—i.e., “interactive applications on a computer network”—does not render them unclear. If the Court determines that construction is necessary, dictionaries from the time when the ’967 and ’849 patents were filed show that IBM’s proposed construction—two or more interconnected computers—was the commonly understood meaning of “computer network.” *See, e.g.*, D.I. 134, Ex. A-8, at 5-6; D.I. 134, Ex. A-10, at 5; D.I. 134, Ex. A-11, at 5; D.I. 134, Ex. A-12, at 4. Furthermore, the specification makes clear that the term “computer network” was well understood in the art, specifically noting that “[i]nteractive computer networks are not new.” D.I. 134, Ex. A-1, 1:37-40; D.I. 134, Ex. B-1, 1:34-37.

Defendants’ proposed construction finds no support in either the intrinsic or extrinsic evidence. First, Defendants have no basis for rewriting “**computer** network” as “**information** network.” Second, Defendants apparently equate the single word “**computer**” to mean “consisting of a single central, host **computer** providing the objects to generate the screens of display at the reception systems.” Defendants’ assertion that computer means a specific type of computer programmed in a particular way is likewise unsupported. Third, construing “computer network” as “a single central, host computer” runs contrary to the specification. For example, Figure 2 shows multiple layers that make up part of the network and which themselves are made up of multiple units. D.I. 134, Ex. A-1, Fig 2; *see also, e.g.*, D.I. 134, Ex. A-1, 5:5-16; D.I. 134, Ex. B-1, Fig. 2; D.I. 134, Ex. B-1, 5:7-18. The specification also contemplates increasing the number of host units

in the network to serve “even larger numbers of users.” D.I. 134, Ex. A-1, 5:18-21; D.I. 134, Ex. B-1, 5:19-23. Fourth, the specification makes clear that “network,” by itself, is a general term and gives several examples in the prior art, including commercial networks, military networks, and governmental networks. D.I. 134, Ex. A, 1:64-2:6; D.I. 134, Ex. B, 1:58-2:3. The specification thus clearly refers to the common understanding of the term “computer network,” not the hyper-specific combination of components concocted by Defendants.

B. Disputed Terms Unique To The '967 Patent

1. “the objects being retrieved from the objects stored at the respective reception system, or if unavailable from the objects stored at the respective reception system, then from the network”

IBM’s Proposal	Defendants’ Proposal
[no construction necessary or, alternatively:] the objects being retrieved from the objects stored at the respective reception system, or, if the current versions of the objects are not present from the objects stored at the respective reception system, then from the network	The objects stored at the respective reception system being retrieved from that respective reception system and, if not, retrieved from the network. That is, this language is not met if it is determined that an object is stored at the respective reception system, but it is retrieved from the network without first being retrieved from the respective reception system.

Claim 1 of the '967 patent specifies that the screen display is generated from objects, “the objects being retrieved from the objects stored at the respective reception system, or if unavailable from the objects stored at the respective reception system, then from the network.” Because the claim language is straight-forward, this term needs no construction, much less the addition of a negative limitation. *See Omega Eng’g, Inc., v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). Defendants’ proposed construction is merely a rewording of the claim language that provides no clarity and should be rejected. *Rosco, Inc. v. Velvac Inc.*, C.A. No. 11-117-LPS, 2012 WL 6028239, at *8 (D. Del. Dec. 4, 2012) (finding defendant’s attempts to rewrite the claim language unhelpful) (citing *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997)).

In the alternative, should the Court decide that construction is necessary, the claim language should be construed as “the objects being retrieved from the objects stored at the respective reception system, or, if the current versions of the objects are not present from the objects stored at the respective reception system, then from the network.” IBM’s proposed construction interprets “unavailable” as “the current versions of the objects are not present,” while Defendants’ proposed construction interprets “unavailable” to require that the object first be retrieved from the reception system before being retrieved from the network. IBM’s construction is consistent with the specification’s description of requesting objects that are “unavailable.” For example, the reception system contains “a means to selectively store objects according to a predetermined storage criterion. . . [where] [t]he **currency** of objects stored locally at the RS 400 is verified.” D.I. 134, Ex. A-1, 6:56-63 (emphasis added). In other words, the currency of the objects stored at the reception system is checked to “determine whether an object stored at RS 400 is sufficiently current to permit its continued use, or whether the object has become stale and needs to be replaced with a current object.” *Id.*, at 28:53-59; *see also id.* at 29:34-59, 31:4-15.

Defendants’ proposed construction, on the other hand, excludes embodiments where objects are retrieved based on currency—when they become “stale”—because it only looks to whether the object is present, *i.e.*, “stored at the respective reception system.” Therefore, Defendants’ proposed construction should be rejected as inconsistent with the specification. *See, e.g., Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, C.A. No. 08-309-LPS, 2012 WL 938926, at *3 (D. Del. Mar. 13, 2012) (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”) (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). Defendants’ construction would also needlessly add complexity and

confusion to the claim language. It would require the jury to test the claim construction in two ways, first to see if Defendants’ inclusionary language applies (the object is retrieved from the network), and second to see if Defendants’ exclusionary language applies (the object was not first retrieved from the reception system).

2. “The method of claim 2 wherein the predetermined plan”

IBM’s Proposal	Defendants’ Proposal
The method of claim 3 wherein the predetermined plan	Indefinite

Defendants ask the Court to invalidate claim 4 based upon an obvious typographical error—namely that the claim mistakenly refers to claim 2 rather than claim 3. But where, as here, the error is obvious, the Court has the authority to correct the claim. The Court “may correct an obvious error in a patent claim.” *CBC Flint Partners, LLC v. Return Path, Inc.*, 654 F.3d 1353, 1358 (Fed. Cir. 2011). Specifically, the Court has the authority to correct an error where, as in this case, “(1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.” *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003).

The only reasonable interpretation of the claim language here is that claim 4 is intended to depend from claim 3, not claim 2. Claim 4’s recitation of “*the predetermined plan* for storing objects” matches claim 3’s description that “the objects are stored at the respective reception systems in accordance with *a predetermined plan*.” D.I. 134, Ex. A-1, 40:1-10 (emphasis added). In contrast, claim 2 concerns neither the storage of objects nor a predetermined plan. *Id.* at 39:62-67. This interpretation also finds support in claims 10 and 11, which share a parallel relationship to claims 2 and 3 but do not contain a typographic error. The relevant portion of claim 10 is

identical to the relevant portion of claim 3, claiming “[t]he method of claim 2 wherein the objects are stored at the respective reception systems in accordance with a predetermined plan” *Id.* at 40:38-40. Except for the error in claim 4, the relevant portion of claim 11 is identical to the relevant portion of claim 4, claiming “The method of claim 10 wherein the predetermined plan for storing objects at the respective reception systems includes providing the objects with a storage control parameter in their respective headers” *Id.* at 40:44-47.

The prosecution history of the ’967 patent also supports this interpretation of how to correct the claim language. In the last amendment before allowance, IBM amended claims 3 and 4 to include the relevant language—and, mistakenly, the typographic error. D.I. 134, Ex. A-3. Claim 3’s reference to “a predetermined plan” and claim 4’s reference to “the predetermined plan” were added together. *Id.* Claim 4’s dependency was not amended at the same time as the rest of the language, which again demonstrates a clear mistake. *Id.*

Alternatively, if the Court finds that it does not have the authority to correct the error, “it does not follow . . . that the claim term is necessarily indefinite.” *Masimo Corp. v. Philips Elecs. N. Am. Corp.*, C.A. No. 09-80-LPS, 2015 WL 7737308, at *5 (D. Del. Dec. 1, 2015). “[A] patent is invalid for indefiniteness if its claims, read in light of the specification . . . and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014); *Masimo Corp.*, 2015 WL 7737308, at *5. Here, the scope of claim 4 would be clear to a person skilled in the art, as the meaning and scope of the term “predetermined plan” is self-explanatory.

3. “permit random movement”

IBM’s Proposal	Defendants’ Proposal
allow navigation to new applications at the user’s behest	allow navigation to any of the computer network applications at the user’s behest

Claim 2 of the ’967 patent specifies that a group of command functions “permit random movement.” The parties agree that this “allows navigation . . . at the user’s behest.” The sole dispute concerns whether the claim requires that the navigation simply be to new applications, as IBM contends, or to *any* of the possible computer network applications, as Defendants contend. IBM’s proposed construction comes directly from the specification, which states, “the command functions include a subgroup of functions that facilitate random navigation to *new applications*, at the user’s behest.” D.I. 134, Ex. A-1, 3:8-11 (emphasis added), Abstract (“command functions [] facilitate random navigation to *new applications* with a variety of different procedures which the user can choose from.” (emphasis added), 38:47-55 (describing movement to “*another* application”). Defendants’ proposed construction, in contrast, improperly limits claim 2 to require the ability to navigate to *any* application on the entire network. Nothing in the claim language or the specification requires that the user be able to move to *any* computer network application. Indeed, Defendants’ own evidence supports IBM’s position. *See, e.g., id.* at 3:27-30 (describing navigation to “other available applications”), 3:37-42 (describing navigation to “a new application”).

4. “at least one procedure for moving to a new application” / “a plurality of different procedure for moving to a new application”

IBM’s Proposal	Defendants’ Proposal
[no construction necessary or, alternatively:] procedures for moving to a new application / a plurality of different procedures for moving to a new application	Procedure(s) enabling the user to search and select among any application in the computer network.

Claims 3 and 4 of the '967 patent recite “at least one procedure for navigating to a new application” and “a plurality of different procedures for navigating to a new application,” respectively. Defendants once again try to impose the artificial requirement of enabling navigation to “any application.” But the claim language is straightforward in its reference to “a new application” and needs no clarification. Therefore, construction of this term is unnecessary. *See Omega Eng’g*, 334 F.3d at 1323.

Alternatively, should the Court decide to construe this term, the Court should adopt IBM’s proposed construction. The specification discusses numerous procedures for moving to a new application. D.I. 134, Ex. A-1, 19:20-56 (describing JUMP, INDEX, GUIDE, DIRECTORY, and PATH procedures for navigation). And there is no requirement that those procedures need to enable the user to move to *any* application. In fact, the specification describes the “Path” navigation procedure as allowing movement to just a subset of applications: “applications deemed . . . likely to be of interest to the user.” *Id.* at 19:55-56. Only IBM’s proposed construction is broad enough to capture the “Path” embodiment. As described above, in the section addressing “permit random movement,” the specification teaches several additional navigation procedures that do not require that the user be able to navigate to *any* application. *See id.* at 3:8-11, Abstract, 38:47-55. Defendants’ proposed construction should therefore be rejected.

5. “storage control parameter”

IBM’s Proposal	Defendants’ Proposal
a parameter that identifies the storage characteristic for the object	a parameter that identifies the storage characteristic for the object for initial and/or continued storage

The parties agree that a “storage control parameter” in claims 4 and 13 of the '967 patent should include the language “a parameter that identifies the storage characteristic for the object.” That language come directly from the specification, which teaches that “a single byte; i.e., byte

16, is allocated to *identify the storage characteristic for the object.*” D.I. 134, Ex. A-1, 13:38-44 (emphasis added), Fig 4b. Defendants, however, improperly seek to append the extraneous language, “for initial and/or continued storage.”

Defendants’ proposed construction is contrary to a preferred embodiment. In that preferred embodiment, byte 16, representing the storage control parameter, is not limited to identifying characteristics about initial and/or continued storage. Rather, Byte 16 establishes “the basis upon which [the object] will be updated.” *Id.* at 13:43-44; *see also id.* at 28:45-52 (“[T]he storage candidacy value establishes the basis upon which the object will be maintained at RS 400 *and also* identifies the susceptibility of the object to becoming stale by dictating *when the object will be version checked* to determine currency.” (emphasis added)). Defendants’ proposed construction would read out those aspects of the preferred embodiment and should therefore be rejected. *Power Integrations, Inc.*, 2012 WL 938926, at *3 (“A claim construction that excludes a preferred embodiment is ‘rarely, if ever, correct.’”) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)).

C. Disputed Terms Unique To The ’849 Patent

1. “selectively storing advertising objects at a store established at the reception system”

IBM’s Proposal	Defendants’ Proposal
storing advertisement objects if they meet certain criteria, such as being non-volatile, non-critical to network integrity, or if they are critical to ensuring reasonable response time, at a store established at the reception system	pre-fetching advertising objects and storing at a store established at the reception system in anticipation of display concurrently with the applications

Claims 1 and 14 recite “selectively storing advertising objects at a store established at the reception system.” IBM’s proposed construction is derived from the specification, which teaches a means to “*selectively store objects according to a predetermined storage criterion*, thus enabling frequently used objects to be stored locally at the [reception system], and causing infrequently

used objects to forfeit their local storage location.” D.I. 134, Ex. B-1, 6:57-7:3 (emphasis added). The specification explains that those objects “*may be stored . . . if the objects meet certain criteria*, such as being non-volatile, non-critical to network integrity, or if they are critical to ensuring reasonable response time.” *Id.* at 9:1-5 (emphasis added). Selectively storing objects is thus clearly associated with the concept of storing based on criteria of those objects.

In contrast, Defendants’ proposed language about “pre-fetching” is not discussed in the context of selectively storing. Rather, the ’849 patent discloses a specific “Ad manager” embodiment, as depicted in Fig. 8, that pre-fetches advertising objects. *See, e.g., id.* at 25:55-64. The specification makes clear that Fig. 8 depicts “native code modules . . . which *might* be used”—in other words, they are preferred embodiments. *Id.* at 4:36-39. Because Defendants’ pre-fetching construction is premised on the “Ad manager” embodiment, it should be rejected. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004) (“[E]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.”) (citations and quotation marks omitted). Furthermore, Defendants’ proposal clearly overreaches in that it attempts to equate one action—“selectively storing”—with *two actions*—“pre-fetching” and “storing.”

The claims themselves also indicate that “selectively storing” means something different than “pre-fetching.” Claim 22, for example, contains an explicit “pre-fetching” limitation. Thus, when the patentee intended for its claims to be limited to “pre-fetched,” it explicitly used that claim language. Defendants’ proposed construction should therefore be rejected. *See Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1305 (Fed. Cir. 1999) (rejecting additional limitation proposed by defendants because had the patentee “intended or desired to claim [the additional limitation

proposed by the defendant] in the asserted claims, it could have done it explicitly, as in” a later independent claim).

2. “storing a predetermined amount of the advertising data in a store established at the respective reception systems”

IBM’s Proposal	Defendants’ Proposal
[no construction necessary or, alternatively:] storing a certain amount of advertising data in a store established at the respect reception systems	Storing a certain (i.e., specific) amount of advertising data determined independent of the requested applications in a store established at the respective reception systems

Claim 8 of the ’849 patent recites “storing a predetermined amount of the advertising data in a store established at the respective reception systems.” The claim language is straightforward and requires no construction because the word “predetermined” could be readily understood by a jury. *See Omega Eng’g*, 334 F.3d at 1323. In the alternative, should the Court determine that the term requires construction, it should be construed as “storing a certain amount of advertising data in a store established at the respect reception systems.”

Defendants’ construction adds the extraneous language, “determined independent of the requested applications.” Defendants thus conflate a temporal requirement, *pre*-determined, with a logical one, “determined *independent* of the requested applications.” Unsurprisingly, nothing in the ’849 patent limits storing advertising data to an amount “determined independent of the requested applications.” Rather, the specification discusses the general storing of objects, which can include advertising data, without requiring that the storage be determined independent of the requested applications. D.I. 134, Ex. B-1, 6:57-64, 29:35-44. Furthermore, during prosecution, the Board of Patent Appeals and Inferences found that:

[S]toring a predetermined amount of the advertising data in a store establish at the respective reception system’ is interpreted to mean that ‘at least’ a predetermined amount of advertising is stored at the reception systems, since the claim does not

preclude storing more than the amount, and the amount could be one.
“Predetermined” means “established in advance.”

D.I. 134, Ex. B-3, at 22. In sum, the Court should accept IBM’s proposals because there is no specialized meaning to the term “predetermined.”

3. “structuring advertising in a manner compatible to that of the applications so that it may be presented”

IBM’s Proposal	Defendants’ Proposal
[no construction necessary or, alternatively:] organizing advertising in a manner compatible to that of the applications so that it may be presented	Formatting advertising for use with a plurality of applications

Claims 1 and 14 specify that the claimed method comprises the steps of “structuring advertising in a manner compatible to that of the applications so that it may be presented.” This language is plain on its face and thus needs no construction. *See, e.g., Omega Eng’g*, 334 F.3d at 1323. Indeed, the context surrounding the claim language at issue in claims 1 and 14 explains that “structuring the advertising includes *configuring the advertising as objects that include advertising data*.” D.I. 134, Ex. B-1, 39:54-59, *see also* D.I. 134, Ex. B-1, 41:25-26. This surrounding language “provides substantial guidance as to the meaning” of the term. *Phillips*, 415 F.3d at 1314.

In the alternative, should the Court determine that construction is necessary, the term should be construed to mean “organizing advertising in a manner compatible to that of the applications so that it may be presented.” IBM’s construction is consistent with the specification, which describes the invention as “*organizing* advertising and applications as objects that collectively include presentation data and executable program instructions for generating the advertising and applications at the reception system.” D.I. 134, Ex. B-1, 3:33-37 (emphasis added); *see also* D.I. 134, Ex. B-1, 11:15-20 (“objects are structured in accordance with an architecture

that permits the displayed data to be relocatable on the screen”), 3:10-16 (“advertising is structured in a manner comparable to the manner in which the service applications are structured”).

Defendants’ construction is unnecessarily limiting because it requires advertising to be “use[d] with a plurality of applications,” which is not required by the specification. While the “structured advertisements” *may* be capable of being used with more than one application, the specification does not limit or disclaim the use of advertising to only those that can be used with a plurality of applications. Defendants’ proposed construction is therefore unnecessarily limiting and should be rejected. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1582, 1576 (Fed. Cir. 1996).

II. Disputed Terms For U.S. Patent No. 5,961,601

A. “recursively embedding the state information in all identified continuations”

IBM’s Proposal	Defendants’ Proposal
modifying each identified continuation to include state information	Repeatedly applying a program to each identified continuations to modify all identified continuation to include state information

IBM’s proposed construction for “recursively embedding the state information in all identified continuations” is firmly rooted in the specification. The abstract explains that “state information may be embedded by modifying an identified continuation.” D.I. 134, Ex. C-1, Abstract. Likewise, the specification explains that “[a]s depicted in FIG. 6,” a convert1 program “preserves state by modifying each continuation.” *Id.* at 12:6-7. Figure 6 depicts the packet of Figure 5, modified to include state information in the form of “state variables.” Indeed, Defendants appear to agree that “recursively embedding the state information in all identified continuations” includes “modifying each identified continuation to include state information.” However, Defendants seek to introduce additional limitations that contradict the specification in two ways: by incorporating the words “repeatedly” and “applying a program.”

Defendants’ incorporation of the word “repeatedly” ignores the context of the claim language where the “recursively embedding . . .” term appears. For example, claim 51 recites “[1] receiving a service request . . . [2] recursively embedding the state information in all identified continuations, in response to said request . . . and . . . [3] communicating a response including the continuations and embedded state information.” *See also id.*, claims 14, 60. Defendants’ construction would require **repeatedly** modifying all identified continuations **between** “receiving a service request” and “communicating a response” instead of just modifying each identified continuation **once** between the “receiving” and “communicating” steps. That interpretation contradicts Figure 4, which depicts an algorithm whereby the “Client Requests A Service From The Server” in Step 500, a program “Modifies All Continuations Produced By The Service To Embed State” in Step 520, and “Client Receives Service Output With Continuations” in Step 525. The flow chart of Fig. 4 makes clear that Step 520, the “Embed State” step, **cannot occur “repeatedly”** between Step 500, when the server receives a service request, and Step 525, when the server communicates a response; rather, it occurs once. *Id.* at Fig. 8. Of course, the steps of (1) receiving a request, (2) modifying continuations, and then (3) communicating a response can cycle repeatedly “for the duration of the conversation.” *Id.* at 12:38-41; Fig. 5, Step 540. But that is far different from Defendants’ proposed language, which would rewrite the claim as (1) receiving a request, (2) **repeatedly** modifying continuations, and then (3) communicating a response.

Defendants’ construction would improperly require that recursively embedding be performed by “applying a program” even though the specification explains that using a program is a preferred and non-limiting embodiment: “Here it is assumed, for simplicity, that the services performed by the server on behalf of a client are programs.” *Id.* at 11:48-51. In other words, the specification refers to programs (such as convert1 and convert2 in the specification) for simplicity,

not to limit the scope of the invention. Nowhere does the specification equate “recursively” with “applying a program,” and the specification should be preferred over Defendants’ citations to dictionaries. *Virnetx, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1316 (Fed. Cir. 2014). And even Defendants’ dictionaries do not consistently define “recursive” as corresponding to a “program”; they alternatively refer to a “process,” D.I. 134, Ex. C-4, or “routine or statement.” D.I. 134, Ex. C-6. “**Recursively** embedding” simply means that the embedding step recurs for *each* identified continuation.

B. “continuation(s)”

IBM’s Proposal	Defendants’ Proposal
a new request in a conversation which a client may send to a server, such as, for example, a hyperlink	Code within an output that, upon selection by a client, causes the client to send a new request which a client may send to a server, such as, for example, a hyperlink

IBM’s proposed construction for “continuation(s)” comes from the glossary of the specification, which explains that a continuation is “a new request which a client may send to a server.” The glossary goes on to explain that “continuations” are part of a back and forth conversation between the client and server where “the client requests something from a server [and] the server may include one or more continuations in its response.” D.I. 134, Ex. C-1, 2:51-52. Continuations are aptly named because they allow the client to “continue” its conversation with the server. *Id.* at 9:55-56. The glossary defines continuation as a new request in the glossary because it follows a *prior* request in a conversation. The specification further teaches that, unlike other requests, continuations allow the client to engage in a conversation: “On the Web, hypertext links represent continuations and a client engages *in a conversation* whenever it follows hypertext links. A conversation is interrupted whenever the client obtains a new page by explicitly requesting a new URL instead of following hypertext links.” *Id.* at 7:8-11.

Until recently, Defendants agreed with the majority of IBM’s proposed construction. Defendants proposed “[a] new request which a client may send to a server, such as, for example, a hyperlink” in the parties Joint Claim Construction Chart. D.I. 134, Ex. A, at 18. However, Defendants recently backed away from the definition of continuation in the specification and proposed a new construction: “[c]ode within an output that, upon selection by a client, causes the client to send a new request which a client may send to a server, such as, for example, a hyperlink.” “Code” does not appear anywhere in the glossary entry for the term “continuation,” much less code that can be selected by the client. IBM’s definition comes from the patentee’s explicit definition of the term, as set forth in the glossary, and thus should be preferred over Defendants’ attempt to rewrite the claim language to include extraneous language. *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Defendants’ proposed construction makes even less sense in the context of the claim language. Claim 51 contains the phrase “identifying all continuations in an output.” Defendants proposed construction inserted into the language from claim 51 would read “identifying all ‘code within an output that, upon selection by a client, causes the client to send a new request which a client may send to a server, such as, for example, a hyperlink’ in an output.” That language is problematic in several regards. First, because “code” is a mass noun—a noun denoting something that cannot be counted—Defendants’ proposed construction creates ambiguity as to how much or what portion of the code must be identified. Second, Defendants’ proposed construction is needlessly duplicative by repeating the words “in an output” that already appear elsewhere in the claim. In other words, Defendants would impose a nonsensical and confusing requirement of “identifying all code within an output . . . in an output.” Third, Defendants’ proposed language, “*causes the client to send* a new request which *a client may send* to a server,” contains

contradictory language about whether selection of a hyperlink automatically causes a client to send a request or whether the client “may” send a request to a server. Fourth, Defendants’ requirement that the code can be “select[ed] by a client” is contrary to the specification, which explains that in the HTML embodiment of the invention, HTML code is interpreted by the browser, which then displays the corresponding webpage to the client. D.I. 134, Ex. C-1, 4:45-67, 5:50-67, 6:50-58. The HTML “code” is therefore hidden from the client, who only interacts with the webpage that the HTML represents, not the underlying code.

C. Terms Governed By 35 U.S.C. § 112(f)

The parties agree that four terms are governed by 35 U.S.C. § 112(f). “The first step in construing a means-plus-function limitation is to identify the function explicitly recited in the claim. The next step is to identify the corresponding structure set forth in the written description that performs the particular function set forth in the claim.” *Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1369 (Fed. Cir. 2001) (internal citation omitted). As discussed below, IBM’s constructions should be adopted.

Term	IBM's Proposal	Defendants' Proposal
“state detection means for detecting when the request for a service requires preservation of the state information”	<p>Function: detecting when the request for a service requires preservation of the state information</p> <p>Structure: a client or server performing either (a) the algorithm set forth in the box labeled 510 in FIG. 4 and discussed at 11:55- 58, or (b) the algorithm set forth in step 810 of FIG 8 and discussed at 13:67-14:6</p>	<p>Function: detecting when the request for service requires preservation of the state information.</p> <p>Structure: Server 410' performing either: (a) the algorithm set in the box labeled 510 in FIG. 4 and discussed at 11:55- 58, or (b) the algorithm set forth in step 810 of FIG 8 and discussed at 13:67-14:6.</p>
“search means for identifying all continuations in an output from said service, in response to said step of detecting”	<p>Function: identifying all continuations in an output from said service, in response to said step of detecting</p> <p>Structure: a client or server performing the identifying portion of either of (a) the algorithm depicted at step 520 of FIG. 4 and discussed at 11:61-64, or (b) the algorithm depicted in steps 811 and 812 of FIG. 8 and discussed at 14:29-63</p>	<p>Function: identifying all continuations in an output from said service, in response to said step of detecting</p> <p>Structure: Server 401' performing the identifying portion (to the extent any such portion exists) of either of (a) the algorithm depicted at step 520 of FIG. 4 and discussed at 11:61-64, or (b) the algorithm depicted in steps 811 and 812 of FIG. 8 and discussed at 14:29-63</p>
“converter means for recursively embedding the state information in all identified continuations”	<p>Function: recursively embedding the state information in all identified continuations</p> <p>Structure: a client or server performing the recursively embedding portion of either of (a) the algorithm depicted at step 520 of FIG. 4 and discussed at 11:61-64, or (b) the algorithm depicted in steps 811 and 812 of FIG. 8 and discussed at 14:29-63</p>	<p>Function: recursively embedding the state information in all identified continuations</p> <p>Structure: Server 401' performing either of (a) the algorithm depicted at step 520 of FIG. 4 and discussed at 11:61-64, or (b) the algorithm depicted in steps 811 and 812 of FIG. 8 and discussed at 14:29-63</p>
“communication means for communicating the output to the client”	<p>Function: communicating the output to the client</p> <p>Structure: a server using HTTP depicted in Fig. 7a or a client running downloadable server code on the client discussed at 16:30-43.</p>	<p>Function: communicating the output to the client</p> <p>Structure: Server 410' performing the algorithm discussed at 12:45-48.</p>

The most significant dispute between the parties is whether one of the algorithms that correspond to the agreed-upon functions can run on the client computer as well as the server computer. As an initial matter, there can be multiple corresponding structures if the specification identifies each of them as being capable of performing the function. *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258-59 (Fed. Cir. 1999). IBM's proposals should be adopted because they account for both structures in the specification—the server computer and the client computer. In particular, the specification teaches that “[f]or a browser which supports downloadable server programs such as those written using Java (‘applets’), or any other such language, additional features are possible.” Ex. C-1, 16:14-16. With respect to “state detection means,” the specification teaches that “the server 410 could contain a downloadable program which causes the state to be stored at the client.” *Id.* at 16:23-25. With respect to the “search means” and the “converter means,” which the parties agree correspond to aspects of the converter algorithms, the specification discloses that “[a]nother application of downloadable server code to the present invention would be to allow the ‘converter’ 416 to run on the client.” *Id.* at 16:30-32. And with respect to the “communication means,” the specification discloses that downloading the converter to the client “would allow the full functionality of the present invention with all (or part of) the processing taking place locally on the client 450.” *Id.* at 16:34-36. In other words, for each algorithm associated with the means-plus-function language, the specification discloses that it can be performed not only on the server computer, but also on the client computer.

With respect to the algorithms themselves, the parties agree on which ones are associated with “state detection means for detecting when the request for a service requires preservation of the state information” and “search means for identifying all continuations in an output from said service, in response to said step of detecting.”

With respect to “converter means for recursively embedding the state information in all identified continuations,” IBM’s proposal should be adopted. The parties agree that the algorithm associated with “*search means for identifying . . .*” is “*the identifying portion* of either of (a) the algorithm depicted at step 520 of FIG. 4 and discussed at 11:61-64, or (b) the algorithm depicted in steps 811 and 812 of FIG. 8 and discussed at 14:29-63.” However, Defendants’ proposed structure for “converter means for recursively embedding . . .” is the *entirety* of the exact same algorithms. That proposal would be duplicative by incorporating “the identifying portion” of the algorithms again. Instead, the corresponding structure for “*converter means for recursively embedding . . .*” should be distinct and limited to “*the recursively embedding portion* of either of (a) the algorithm depicted at step 520 of FIG. 4 and discussed at 11:61-64, or (b) the algorithm depicted in steps 811 and 812 of FIG. 8 and discussed at 14:29-63.” Defendants’ proposal is duplicative of other proposed structures and over-inclusive.

With respect to the “communication means for communicating the output to the client,” IBM’s proposed algorithm is consistent with the claim language, which describes communication *to the client*. That language matches up with how the server communicates *to the client* using HTTP. *Id.* at Fig. 7a (depicting an arrow from the server to the client labeled “HTTP”) In contrast, Defendants’ proposed algorithm looks at communication in the wrong direction, *from the client*: “Customers access the server 410’ via a client 450 running a standard browser 460. In order to communicate securely, the `browser` 460 should be able to communicate using SSL.” *Id.* at 12:45-48.

Accordingly, IBM’s proposed structures for the means-plus-function terms should be adopted.

D. Order Of Claim Elements

Defendants ask the Court to require that all the steps appearing in independent claims 14, 40, 51, and 60 must be performed exactly in the order that they appear in the claims. But unless the steps of a method actually recite an order, they are not ordinarily construed to require one. *Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1342-3 (Fed. Cir. 2001). First, courts look to “the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written.” *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003). Second, courts “look to the rest of the specification to determine whether it “directly or implicitly requires such a narrow construction.” *Id.* at 1370.

Here, the claims do not mandate Defendants’ proposed order of the claimed steps. For example, Defendants argue that the “identifying” and “recursively embedding” steps for claims 51 and 60 are “distinct actions that must be performed in the listed order.” However, in claims 51 and 60, those steps are not even separate elements. Instead, a single element recites “***identifying*** all continuations in an output from said service ***and recursively embedding*** the state information in all identified continuations, in response to said request.”

The specification confirms that the “identifying” and “recursively embedding” steps do not need to be performed one after another. In fact, the parties agree that the same algorithms can perform both the step of “identifying” and the step of “recursively embedding.” D.I. 134, Ex. A, at 19-20. Defendants’ proposals for ordering the claim elements should be rejected because it would prohibit a single function that simultaneously processes data to identify all continuations while it recursively embeds state information into them. *See SmartPhone Techs. LLC v. Research in Motion Corp.*, No. 6:10-CV-580 LED-JDL, 2012 WL 3150756, at *15 (E.D. Tex. Aug. 2, 2012) (rejecting a proposal to limit the order of “translating” and “storing” claim elements where “the system could capture a large block of information and translate the information in stages, i.e., store

a portion of translated data while the system simultaneously translates the remaining portion of data.”).

Defendants’ proposal makes even less sense in the context of claim 40, which contains means-plus-function elements governed by 35 U.S.C. § 112(f) that correspond to *structures*. The parties agree that the corresponding structures are devices, such as servers and clients. D.I. 134, Ex. A, at 19-21. Defendants’ proposal therefore applies a nonsensical, temporal requirement to physical devices. Likewise, Defendants’ proposed requirement that the means-plus-function element constitute “distinct functional requirements” contradicts their proposal that “search means” and “converter means” correspond to the same algorithms. *Id.* at 19-20.

While some of the claim elements refer to previous claim elements, where such a dependency exists it is stated explicitly in the claims and needs no further construction. *See, e.g.*, Ex. C-1, 23:56-57 (“in an output from said service”), 23:62-64 (“one of the continuations must be invoked to continue the conversation”). But as the explanation above illustrates, there is no need to apply an overarching framework that adds unnecessary complexity to the claims that is not supported by the specification. The claims themselves are the best indication of how the elements interact; there is no need for additional construction.

E. “[dynamically downloading computer program code to the client to] perform said step of embedding which is responsive to said step of communicating the output to the client”

IBM’s Proposal	Defendants’ Proposal
[no construction necessary]	Indefinite

Because both the claim language and the specification are clear about the scope of the invention, Defendants cannot show that claim 63, “read in light of the specification delineating the patent, and the prosecution history, fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 134 S. Ct. at 2124. Claim 63 depends from claim

60, and adds that the instructions perform the step of “dynamically downloading computer program code to the client to perform said step of embedding which is responsive to said step of communicating the output to the client.” That claim language is clear on its face, and the specification confirms the plain and ordinary meaning of claim 63. The specification explains that “downloadable server code . . . allow[s] the `converter` 416 to run on the client.” D.I. 134, Ex. C-1, 16:30-32. As explained in one of the disclosed embodiments, “the embedding step is performed by the converter program.” *Id.* at 10:54-55. In light of those disclosures, it is clear that claim 63 covers an additional step of dynamically downloading computer program code, such as a “converter program,” to the client. That “computer program code” is used “to perform said step of embedding” to continue the conversation by performing the embedding step in the future. The specification confirms this interpretation by explaining that one advantage of downloading “computer program code” to the client is that “the client will be able to continue conversations even if the server from which the client obtains the applet goes down or becomes unavailable due to a network failure.” *Id.* at 16:40-42.

F. Filtering And Adding Terms

Term	IBM’s Proposal	Defendants’ Proposal
“filtering one of said hyperlinks and data output from said services according to a predetermined criteria”	removing one of said hyperlinks and data output from said services according to criteria determined prior to removing	Removing from said output of said services one of said hyperlinks and data according to criteria determined prior to receiving said request from said client.
“adding one of said hyperlinks and data to said output from said services according to a predetermined criteria”	inserting one of said hyperlinks and data to said output from said services according to criteria determined prior to inserting	Inserting in said output of said services one of said hyperlinks and data according to criteria determined prior to receiving said request from said client.

The parties agree that the word “filtering” means “removing” and the word “adding” means “inserting” in dependent claims 58 and 59, respectively. However, the parties disagree about how

to interpret the word “predetermined.” Defendants’ proposed construction would limit “predetermined” to a specific point of time “prior to receiving said request from said client.” “Said request” is a reference to the first element of independent claim 51, from which claims 58 and 59 depend, which recites “received a service request including state information” D.I. 134, Ex. C-1, 23:54-55. Defendants’ construction would thus arbitrarily narrow the word “predetermined” to require that “removing” or “inserting” occur prior to the “receiving” element of independent claim 51.

Defendants’ reading of “predetermined” would apply a limitation that finds no support in the specification. Both claim terms are discussed in detail in a section of the specification titled “Other Examples of Dynamic Page Modification,” which describes the “filtering” and “adding” inventions. *Id.* at 17:13-57. But no part of that section (or any other section of the specification) limits the claimed inventions to filtering/adding criteria that are determined prior to “receiving a service request including state information, via the stateless protocol.” To the contrary, the specification explains that “[t]he present invention provides a method for filtering and/or modifying HTML text *while a client accesses files and programs which may be remote to the server doing the filtering.*” *Id.* at 17:21-23 (emphasis added). If the filtering/modifying can occur *while* the client is accessing the server, it need not occur prior to receiving that client’s request to access the server in the first place, as Defendants propose. Likewise, the title of the relevant section of the specification is titled “Other Examples of *Dynamic* Page Modification,” which indicates that modifications occur “on-the-fly,” rather than before the client makes a request of the server. *Id.* at 17:13.

III. Disputed Term For U.S. Patent No. 7,631,346

A. “federated computing environment”

IBM’s Proposal	Defendants’ Proposal
a set of distinct entities, such as enterprises, organizations, institutions, etc., that cooperate to provide a single-sign-on, ease-of-use experience to a user, wherein the enterprises need not have a direct, pre-established, relationship defining how and what information to transfer about a user	A set of distinct entities, such as enterprises, organizations, institutions, etc., that cooperate to provide a single-sign-on, ease-of-use experience to a user. A federated environment differs from a typical single-sign-on environment in that two enterprises need not have a direct, pre-established, relationship defining how and what information to transfer about a user.

The preamble of Claim 1 describes a first and second system interacting within a federated computing environment:

1. A method for managing user authentication within a distributed data processing system, wherein a first system and a second system interact within a federated computing environment and support single-sign-on operations in order to provide access to protected resources, at least one of the first system and the second system comprising a processor, the method comprising;

D.I. 134, Ex. D-1, 44:38-45.

The parties agree that a federated computing environment is “a set of distinct entities, such as enterprises, organizations, institutions, etc., that cooperate to provide a single-sign-on, ease of use experience to a user.” The parties further agree that in a federated computing environment, “the enterprises need not have a direct, pre-established, relationship defining how and what information to transfer about a user.” The difference between the parties’ proposed constructions is Defendants’ inclusion of the language, “A federated environment differs from a typical single-sign-on environment in that two enterprises....” This language is unnecessary and cumbersome. When plugged into the claim, IBM’s proposed construction maintains the claim’s structure.

A method for managing user authentication within a distributed data processing system, wherein a first system and a second system interact within *a set of distinct entities, such as enterprises, organizations, institutions, etc., that cooperate to provide a single-sign-on, ease-of-use experience to a user, wherein the enterprises need not have a direct, pre-established relationship defining how and what information to transfer about a user*, and support single-sign-on operations in order to provide access to protected resources . . .

IBM's proposed construction assists the jury with the meaning of a "federated computing environment" and is faithful to the description in the specification. *See, e.g., id.* at 10:62-11:7.

IBM's construction is more comprehensible for the Court and jury. In contrast, Defendants' construction needlessly breaks the claim term into two separate sentences. Additionally, Defendants' proposed construction would confuse the jury because it offers no explanation of what constitutes a "typical" single-sign-on environment and implies that federated computing environments are distinct from single-sign-on environments. But the patent makes clear that single-sign-on operations exist *within* federated computing environments. *See, e.g., id.* at 1:62-2:18, 2:55-3:2, 10:24-28, 10:49-61. In fact, Defendants rely on portions of the patent that confirm that the single-sign-on operation and federated computing environment are not mutually exclusive. *See, e.g., id.* at abstract (A method, system, apparatus, and computer program product are presented to support computing systems of different enterprises *that interact within a federated computing environment*. . . . For example, an identity provider *can initiate a single-sign-on operation* . . .") (emphasis added).

IBM's proposed construction is faithful to the claim language and specification without injecting any confusion. Defendants' construction would needlessly confuse the jury with cumbersome language that raises questions about a "typical" single-sign-on environment. The Court should therefore adopt IBM's proposed construction.

Respectfully submitted,

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